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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/824,389

04/14/2004

Alberto Patarchi

163-545

6413

47888

7590

10/19/2005

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EXAMINER

PRESTON, ERIK D

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/824,389

**Applicant(s)**

PATARCHI, ALBERTO

**Examiner**

Erik D. Preston

**Art Unit**

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/12/2004</u> . | 6) <input type="checkbox"/> Other: ____  |

Art Unit: 2834

## **DETAILED ACTION**

### ***Claim Objections***

Claim 1 is objected to because of the following informalities: In the 8<sup>th</sup>, 11<sup>th</sup>, and 13<sup>th</sup> lines of page 12, the phrase "...said core..." lacks proper antecedent basis and, for examination purposes, will be interpreted as saying "...said induction core..."

Appropriate correction is required.

Claim 14 is objected to because of the following informalities: In the 3<sup>rd</sup> line of page 14, the phrase "...the polarity exchange..." lacks proper antecedent basis and, for examination purposes, will be interpreted as saying "...a polarity exchange..."

Appropriate correction is required.

Claims 11,12 & 14 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim is only proper if it is in an alternative form (for example: X according to 1,2 or 3). See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,2,5,6,10 &12 are rejected under 35 U.S.C. 102(b) as being anticipated by Esswein (US 5327032 supplied by applicant).

Art Unit: 2834

With respect to claim 1, Esswein teaches an electric motor comprising: A stator (Fig. 2, #38), a magnetic induction core (Fig. 2, #10) constrained to said stator (by way of mounting block: Fig. 2, #12), at least one coil of magnetic excitation (Fig. 2, #34) associated to said induction core, a rotor (Fig. 2, #18) of substantially cylindrical shape comprising at least one permanent magnet (Fig. 2, #28) adapted to form on said rotor at least two magnetic poles of opposite polarity, said induction core and said at least one coil being adapted to form at least two magnetic induction poles of opposite polarity on said induction core, wherein said induction core is produced in a single body (as seen in Fig. 1) and comprises a central hole for housing said rotor, at least two opposing extensions adapted to form said at least two magnetic induction poles in opposite position from each other and in proximity to said central hole, at least two opposing and external magnetic separation notches (Fig. 2, #22,24,26), alternately arranged with respect to said extensions, adapted to generate a magnetic separation between two adjacent, opposite-sign poles of the induction core, such that the rotor is arranged with each magnetic pole between two adjacent poles of the induction core when the motor is de-energized (as seen in Fig. 5).

With respect to claim 2, Esswein teaches the motor of claim 1, further comprising a ring shaped air gap (as seen in Fig. 2).

With respect to claim 5, Esswein teaches the motor of claim 1, wherein said induction core comprises two opposing extensions (Fig. 2, #30).

With respect to claim 6, Esswein teaches the motor of claim 5, wherein said rotor comprises two opposing permanent magnets (as seen in Fig. 2).

With respect to claim 10, Esswein teaches the motor of claim 1 wherein electrical energy is gained by the ends of the induction coils when mechanical energy is applied to the rotation axis (which is inherent to all dynamoelectric machines of the type that is taught by Esswein).

With respect to claim 12, Esswein teaches the motor of claim 1 wherein a coil is associated with the induction pole.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 11 & 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Esswein (US 5327032 supplied by applicant).

With respect to claim 7, Esswein teaches the motor of claim 1, but it does not teach that said rotor comprises a single permanent magnet with alternate poles arranged on the side surface of said rotor. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the two rotor magnets of Esswein into one unitary magnet since it has been held that "the use of a one piece construction...would be merely a matter of obvious engineering choice." (In re Larson, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965)).

With respect to claim 11, Esswein teaches the motor of claim 1, but it does not teach that permanent magnets are secured by insertion. However, inserting magnets

Art Unit: 2834

into rotors was well known in the art at the time of the invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to secure permanent magnets to the motor of Esswein using insertion because it provides a means for attaching magnets to a motor without the use of adhesives or external fasteners.

With respect to claim 14, Esswein teaches the motor of claim 1, but it does not specifically teach that a polarity exchange is carried out with a brush manifold. However, brush manifolds (brushes and commutators) were very well known in the art at the time of the invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a brush manifold to implement a polarity exchange in the motor of Esswein because brush manifolds are one of the oldest and most basic methods for controlling polarity exchanges in DC motors.

Claims 3 & 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Esswein (US 5327032 supplied by applicant) in view of Horst (EP 0676853 supplied by applicant).

With respect to claim 3, Esswein teaches the motor of claim 1, but it does not teach that said induction core comprises four equidistant extensions. However, Horst teaches a similar motor with four equidistant extensions (Fig. 3, #18a-d), and Esswein teaches that multiple extensions may be used (Col. 3, Lines 62-68). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the motor of Esswein in view of the motor as taught by Horst because it has more starting torque than other motors (Horst, Abstract).

Art Unit: 2834

With respect to claim 4, Esswein in view of Horst teaches the motor of claim 3, and Horst teaches that said rotor comprises four equidistant permanent magnets (Fig. 3, #24a-d).

Claims 8 & 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Esswein (US 5327032 supplied by applicant) in view of Mavidia et al. (EP 0342733 supplied by applicant). Esswein teaches the motor of claim 1, by it does not teach that said motor further comprises a hall-effect sensor adapted to control the position of the rotor. However, Mavidia teaches a hall-effect sensor (Fig. 8, #150) in a similar motor. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the motor of Esswein in view of the sensor as taught by Mavidia because it provides a means for determining relative angular displacement of a motor's rotor (Col. 5, Lines 11-16).

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Esswein (US 5327032 supplied by applicant) in view of Mavidia et al. (EP 0342733) further in view of Mayes et al. (EP 0892490 supplied by applicant). Esswein in view of Mavidia teaches the motor of claim 8, but it does not teach that said polarity sensor is optical. However, Mayes teaches a motor using an optical sensor (Col. 3, Lines 6-13). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the sensor of Mavidia in view of the sensor as taught by Mayes as merely a substitution of known equivalent position sensors (Col. 3, Lines 6-13).

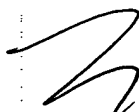
**Conclusion**

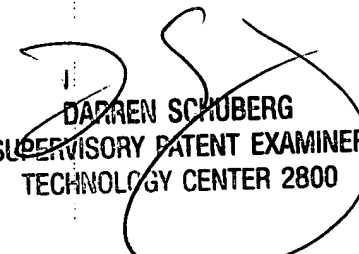
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 2831154, US 5038064, US 6204584, US 6750584 & US 2002/0158535 & 2004/0207279.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erik D. Preston whose telephone number is 571-272-8393. The examiner can normally be reached on Monday through Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
09/26/2005

  
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